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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/931,694	09/16/97	EVANS R	SALK1280-4

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EXAMINER	
JORDAN,K	
ART UNIT	**PAPER NUMBER**
1614	4

DATE MAILED: 04/01/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/931,694	Applicant(s) Evans et al.
	Examiner Kimberly Jordan	Group Art Unit 1614

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-15* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-15* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☒ received in Application No. (Series Code/Serial Number) *08/193,146*.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *3*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

KIMBERLY JORDAN
PRIMARY EXAMINER
GROUP ~~1200~~ 1614

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Claims 1-15 are presented for examination.

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 08/193,146, filed on February 14, 1994.

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims are not enabled because applicant does not teach and effective dose interval for treating. Applicant only states "one of skill in the art can readily determine dose forms, treatment regimens, etc. depending on the mode of administration employed". (page 6). No normalized dose range is given (e.g. 1 mg/kg to 100 mg/kg). The concentration range of 106 to 109 is not a dose range because this range merely refers to an in vitro binding assay and not a therapeutic dose. Determining the effective dose to treat leukemia for each ligand would require undue experimentation. Moreover, applicant claims ligands which selectively interact with receptor subtypes to a significantly greater extent that do other subtypes. The specification defines significantly greater as a ligand which has a higher therapeutic index for treatment of the target disease. A therapeutic index estimates the safety of a drug and is the ratio of the toxic to therapeutic doses. Applicant does not provide the toxic dose range for the ligands. Determining

the toxic dose for each ligand would require undue experimentation. Thus, one skilled in the art would have to conduct undue experimentation to determine how to use the claimed invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are drawn to a method of treating a subject with a given condition. This is unclear as to what the subject is being treated in the subject. The claims merely define a group to whom the compounds are to be administered and do not recite a condition to be treated. Applicant also claims treatment with ligands which bind to specific receptor subtypes to a significantly greater extent than other subtypes. Since one would not know the extent to which a ligand would bind other subtypes when treating a patient for leukemia, one would not know if one was infringing the claimed invention.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was

made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crettaz, Astrom, EPA 0170105 ('105), and EPA 0220118 ('118). Crettaz teaches compound III selectively binds RAR receptor subtypes (page 395, Table 3, No. 6 and first column bridged to second column) and their use to treat retinoid responsive skin disorders and cancer (page 391, column 1, first paragraph). Astrom teaches compound II, etretin (page 340, "Materials") may be useful as an antitumor and antipsoriatic agent (page 339, first paragraph). '105 teaches retinoids for treating leukemia specifically on page 1 bridged to page 2 and compounds encompassing applicant's compound III for treating malignant diseases (abstract and pages 2-4). '118 teaches compounds encompassing applicant's compound IV for treating cancer and skin disease (see page 1). The method of treating subjects afflicted with steroid responsive diseases would have been obvious to a routineer because applicant's compounds were known to be useful for treating cancer and skin diseases. Note that pharmaceutical methods are not limited by possible mechanisms of drug action because all mechanisms inherently occur upon administration of the drug. No unexpected results are shown relative to the claimed pharmaceutical methods. The claims fail to patentably distinguish over the state of the art as represented by the cited references.

The remaining references listed on the enclosed PTO-1449 are cited to show the state of the art.

No claims are allowed.

Any inquiry concerning this communication should be directed to Kimberly Jordan at telephone number (703) 308-4611.

KIMBERLY JORDAN
PRIMARY EXAMINER
GROUP 1200
1614

JORDAN

March 27, 1998